

WHAT IS CLAIMED IS:

personal authentication apparatus inputs authentication data for personal authentication required by the electronic commerce system, withdraws a predetermined amount of savings from a predetermined account at a financial institution, stores them in a storage section as E-cash, performs 5 the settlement of the business transactions with the stored E-cash, and leaves the balance of the E-cash after the settlement and the use history of the E-cash in the storage section.

6. The portable personal authentication apparatus according to 10 claim 2, wherein the electronic system is an electronic commerce system in which E-cash is created by giving monetary value to electronic information flowing on a communication network and the settlement of business transactions is performed with this E-cash, further wherein the portable personal authentication apparatus inputs authentication data for personal authentication required by the electronic commerce system, withdraws a predetermined amount of savings from a predetermined account at a financial institution, stores them in a storage section as E-cash, performs 15 the settlement of the business transactions with the stored E-cash, and leaves the balance of the E-cash after the settlement and the use history of the E-cash in the storage section.

7. The portable personal authentication apparatus according to 20 claim 3, wherein the electronic system is an electronic commerce system in which E-cash is created by giving monetary value to electronic information flowing on a communication network and the settlement of business transactions is performed with this E-cash, further wherein the portable personal authentication apparatus inputs authentication data for personal authentication required by the electronic commerce system, withdraws a predetermined amount of savings from a predetermined account at a financial institution, stores them in a storage section as E-cash, performs 25 the settlement of the business transactions with the stored E-cash, and leaves the balance of the E-cash after the settlement and the use history of the E-cash in the storage section.

30 35 8. The portable personal authentication apparatus according to claim 1, further including storing means for storing credit information,

wherein the electronic system is an electronic commerce system in which settlement is performed with credit information, further wherein the portable personal authentication apparatus inputs authentication data for personal authentication required by the electronic commerce system.

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9. The portable personal authentication apparatus according to claim 2, further including storing means for storing credit information, wherein the electronic system is an electronic commerce system in which settlement is performed with credit information, further wherein the portable personal authentication apparatus inputs authentication data for personal authentication required by the electronic commerce system.

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10. The portable personal authentication apparatus according to claim 3, further including storing means for storing credit information, wherein the electronic system is an electronic commerce system in which settlement is performed with credit information, further wherein the portable personal authentication apparatus inputs authentication data for personal authentication required by the electronic commerce system.

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11. The portable personal authentication apparatus according to claim 5, wherein the electronic commerce system is an automatic charge receiving system for automatically collecting a toll.

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12. The portable personal authentication apparatus according to claim 8, wherein the electronic commerce system is an automatic charge receiving system for automatically collecting a toll.

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13. The portable personal authentication apparatus according to claim 3, wherein the electronic system is a notifying system for giving urgent notification to a competent center in the case of an emergency having occurred, further wherein the portable personal authentication apparatus is used at least for notification of cancel given in the case of canceling the urgent notification, further wherein authentication data read by the portable personal authentication apparatus is sent to the competent center by the communication means in the case of giving the notification of cancel.

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14. The portable personal authentication apparatus according to
claim 1, further including a PC-card slot, wherein one of the biological
features is a fingerprint, further wherein user authentication is performed
by inserting a PC card equipped with reading means for reading the
5 fingerprint into the PC-card slot.

15. The portable personal authentication apparatus according to
claim 2, further including a PC-card slot, wherein one of the biological
10 features is a fingerprint, further wherein user authentication is performed
by inserting a PC card equipped with reading means for reading the
fingerprint into the PC-card slot.

16. The portable personal authentication apparatus according to
claim 3, further including a PC-card slot, wherein one of the biological
15 features is a fingerprint, further wherein user authentication is performed
by inserting a PC card equipped with reading means for reading the
fingerprint into the PC-card slot.

17. The portable personal authentication apparatus according to
claim 5, further including a PC-card slot, wherein one of the biological
20 features is a fingerprint, further wherein user authentication is performed
by inserting a PC card equipped with reading means for reading the
fingerprint into the PC-card slot.

25 18. The portable personal authentication apparatus according to
claim 8, further including a PC-card slot, wherein one of the biological
features is a fingerprint, further wherein user authentication is performed
by inserting a PC card equipped with reading means for reading the
fingerprint into the PC-card slot.

30 19. The portable personal authentication apparatus according to
claim 11, further including a PC-card slot, wherein one of the biological
features is a fingerprint, further wherein user authentication is performed
35 by inserting a PC card equipped with reading means for reading the
fingerprint into the PC-card slot.

20. The portable personal authentication apparatus according to
claim 13, further including a PC-card slot, wherein one of the biological
features is a fingerprint, further wherein user authentication is performed
by inserting a PC card equipped with reading means for reading the
fingerprint into the PC-card slot.

5 21. An electronic system to which access is permitted by the
portable personal authentication apparatus according to claim 3.

10 22. An electronic system to which access is permitted by the
portable personal authentication apparatus according to claim 5.

15 23. An electronic system to which access is permitted by the
portable personal authentication apparatus according to claim 8.

24. An electronic system to which access is permitted by the
portable personal authentication apparatus according to claim 11.

20 25. An electronic system to which access is permitted by the
portable personal authentication apparatus according to claim 13.

26. An electronic system to which access is permitted by the
portable personal authentication apparatus according to claim 14.

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